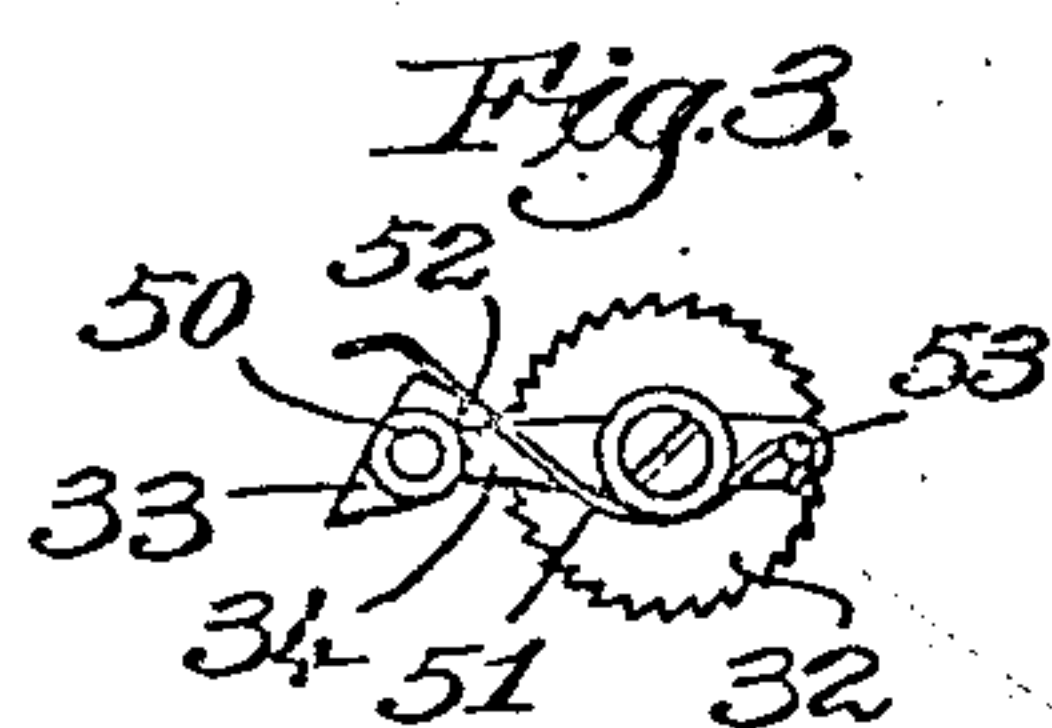
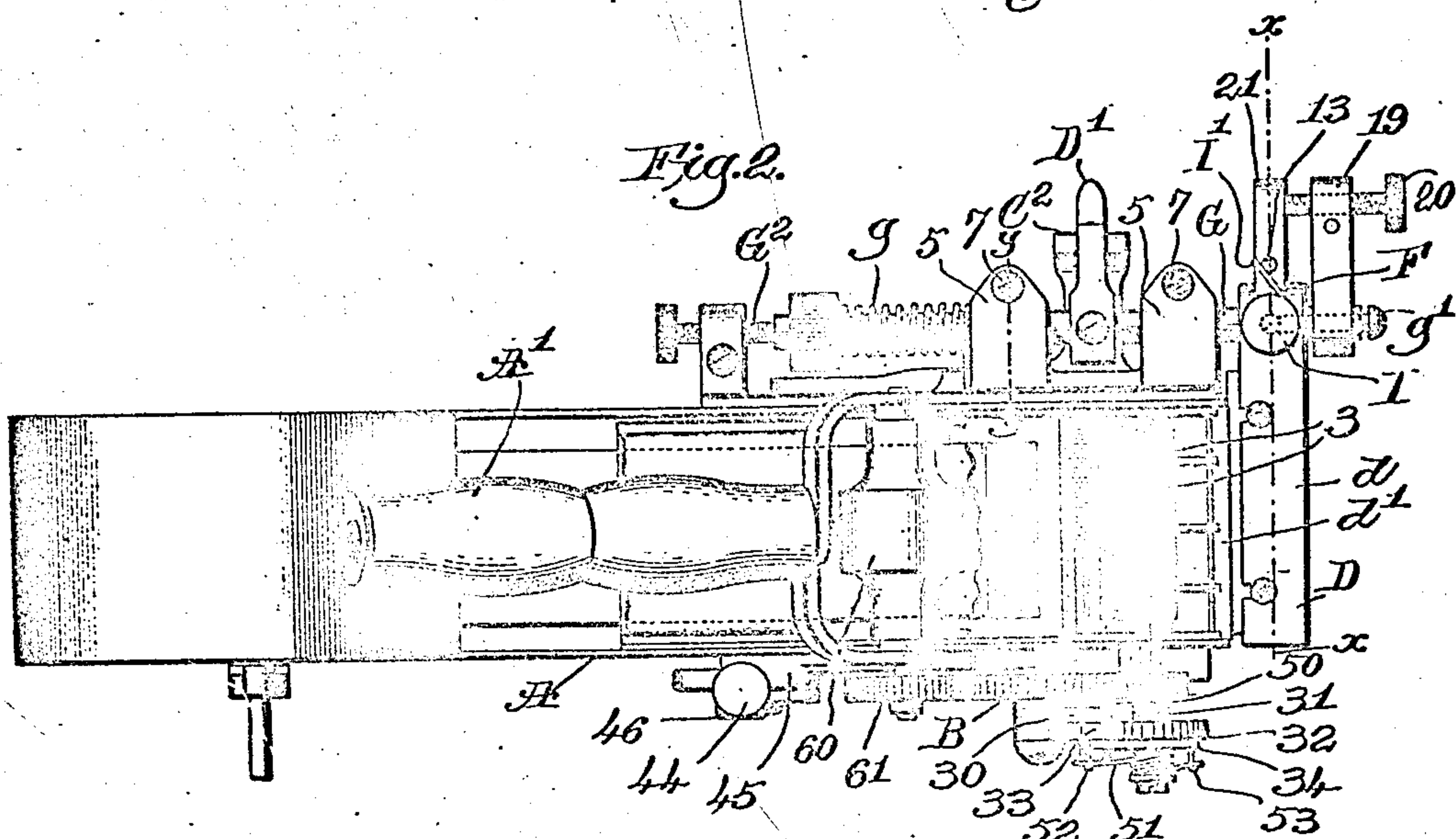
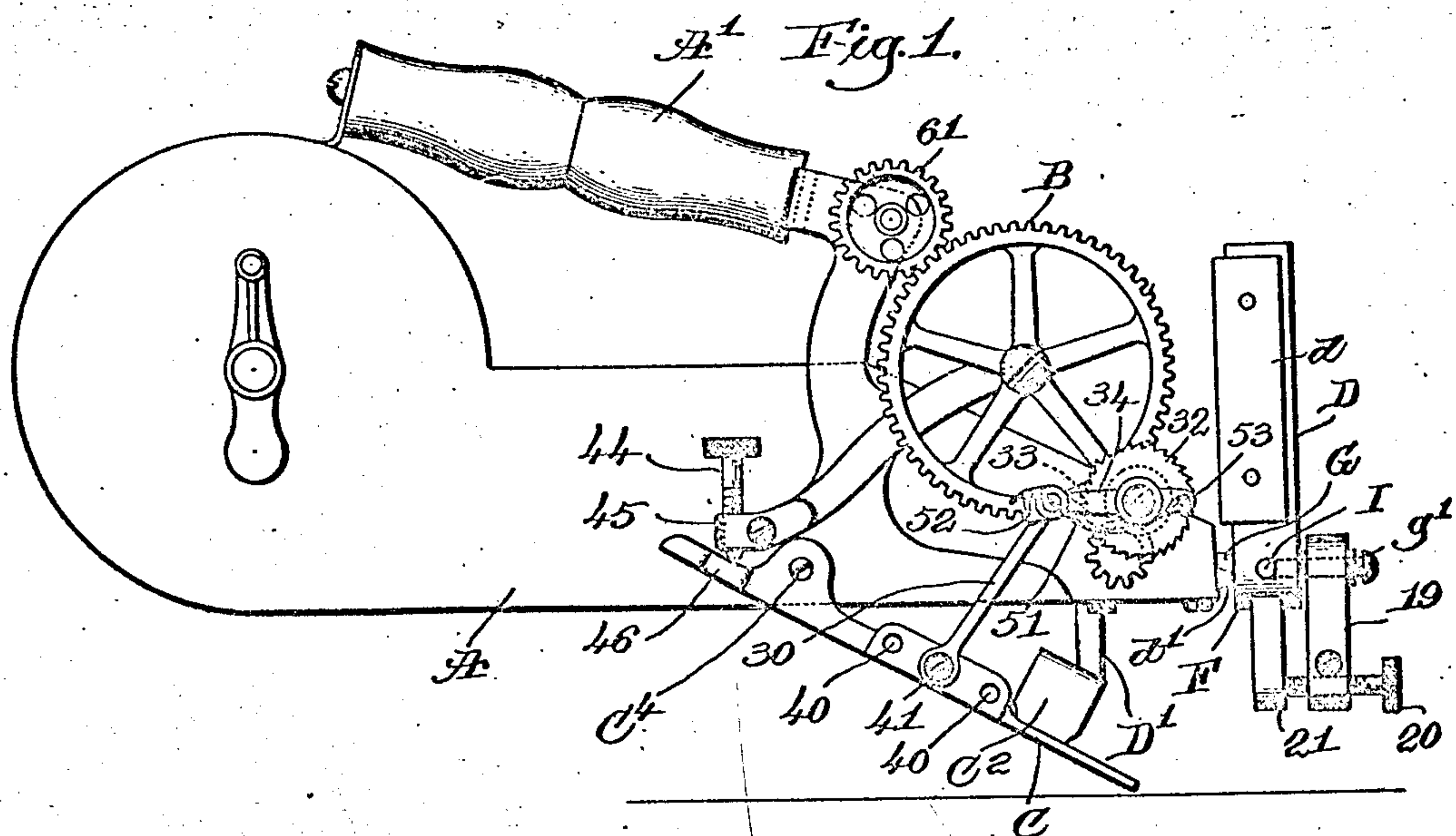


No. 895,528.

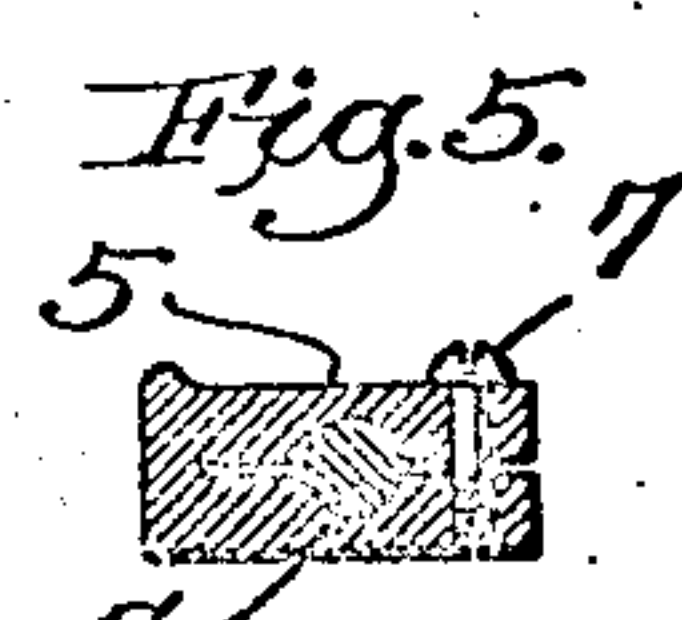
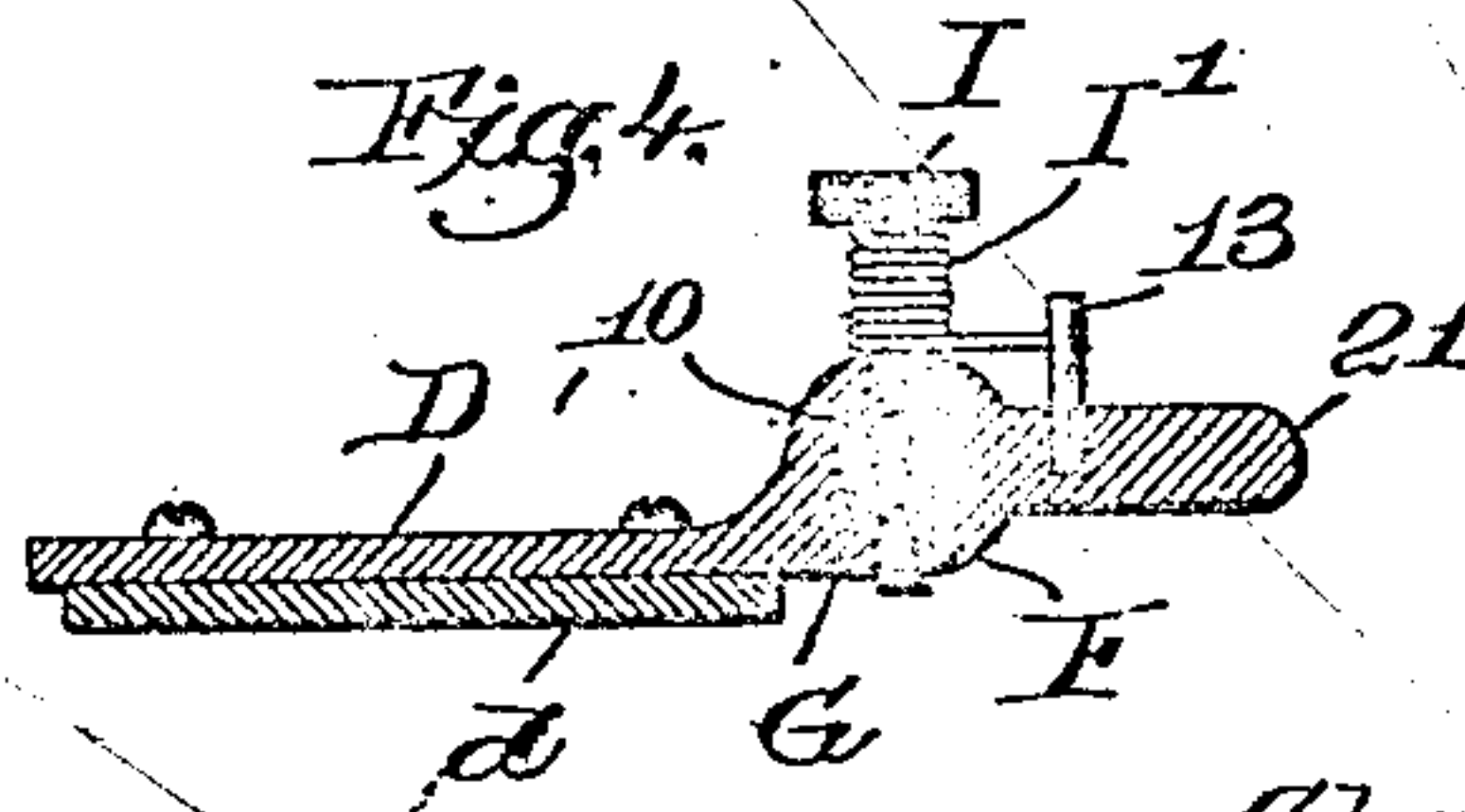
PATENTED AUG. 11, 1908.

C. WING.  
MAILER.

APPLICATION FILED AUG. 27, 1907.



Witnesses.  
Thomas J. Drummond.  
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# UNITED STATES PATENT OFFICE.

CHAUNCEY WING, OF GREENFIELD, MASSACHUSETTS.

MAILER.

No. 895,528.

Specification of Letters Patent.

Patented Aug. 11, 1908.

Application filed August 27, 1907. Serial No. 390,312.

*To all whom it may concern:*

Be it known that I, CHAUNCEY WING, a citizen of the United States, and a resident of Greenfield, in the county of Franklin and State of Massachusetts, have invented an Improvement in Mailers, of which the following description, in connection with the accompanying drawing, is a specification, like letters on the drawing representing like parts.

This invention relates to devices which are adapted to cut address slips from a strip and paste said slips on envelopes, papers or other mail matter, and the invention has particularly for its object to improve the device illustrated in Patent No. 624,806, dated May 9, 1899, granted to Horton and Wing. The device shown in said patent is a hand-operated device and comprises a frame or casing adapted to sustain the strip from which the slips are to be cut and carrying at one end a fixed shearing or cutting blade, a pivoted cutting blade mounted on a rock-shaft which extends longitudinally of the frame, a knife-actuating member pivoted to the under side of the casing in such a way that when the casing is pressed against the paper or envelop on which the address slip is to be pasted, said member is moved toward the frame thereby swinging the pivoted cutting blade and causing the latter to cut the slip from the strip. The device also included a suitable hand-operated feeding mechanism for feeding the strip forward as the address slips are cut therefrom.

One of the objects of my present invention is to provide a novel manner of mounting the pivoted cutting blade so that there will be no danger of its being thrown out of operative position by wearing of the parts or springing of the shafts on which it is mounted.

Another object of my invention is to provide an attachment for automatically feeding the strip forward at each operation of the machine, and still another object of the invention is to provide a novel form of cutting knife which will better maintain its cutting edge under the unfavorable circumstances in which it is used.

I will first describe one embodiment of my invention and then point out the novel features thereof in the appended claims.

In the drawings, Figure 1 is a side view of an apparatus embodying my improvements; Fig. 2 is a top plan view thereof; Fig. 3 is a detail of the strip-feeding mechanism; Fig.

4 is a section on line  $x-x$ , Fig. 2; Fig. 5 is a section on line  $y-y$ , Fig. 2.

The main casing A having the fixed knife  $d'$  at one end thereof and also having the handle A' by which the device is operated, the pivoted or movable knife  $d$  which is mounted on the rock-shaft G at the side of the machine, the knife-actuating member C which is pivoted to the casing at C' and which by its movement toward and from the casing operates the swinging knife blade, and the strip-feeding mechanism comprising the feed rolls 3, are or may be all as shown and described in said Patent No. 624,806, and will not, therefore, be described in detail.

One feature of my improvement relates to the manner of supporting the rock-shaft G and of mounting the cutter blade thereon. In the above-mentioned patent the knife-actuating member C has engagement with the arm on the rock-shaft at a point beyond the bearing for the rock-shaft, and as a result of this construction the rock-shaft is liable to be thrown out of alinement partly because said shaft is not supported on both sides of the point where the power is applied thereto, and partly because the construction is such that the bearing wears unevenly. In my present invention I avoid this difficulty by providing a bearing for the rock-shaft on both sides of the point where the power is applied thereto. As shown in the drawings, the rock-shaft G is supported in two bearings 5 which are rigid with the casing A and extend laterally therefrom. Fast to the rock-shaft between the bearings is an arm D' which has engagement with and is actuated by a projection C' extending from the knife-actuating member C, the arrangement being such that when the knife-actuating member swings toward the casing, the rock-shaft G is turned to swing the knife downwardly. The shaft G is shown as having the return spring  $g$  surrounding the same for the purpose of returning it to its normal position with the cutter blade  $d$  standing vertically, and the end of said shaft is supported upon the threaded bolt G', all as shown in said patent.

With my improvement above described, the shaft G is supported in a bearing on each side of the arm D' where power is applied thereto and, therefore, said shaft will be held perfectly true and in alinement and cannot be twisted or bent by the continual operation of the machine.

I prefer to make the bearings split, as



shown in Fig. 5, and to provide the adjusting screws 7 by means of which any wear may be taken up if wear should occur. In the above-mentioned patent the knife *d* is carried by an arm D which in turn is pivoted to the rock-shaft G so as to permit said knife to swing toward and from the edge of the knife *d'*. I adopt this same construction in my improved device except that the manner of pivoting the arm to the shaft and for adjusting it thereon is different.

As herein shown the arm D has a hub F provided with a bore 10 which is slightly larger than the rock-shaft G, and a pivot-pin I extends through the hub and through the rock-shaft thereby constituting the shaft about which the blade swings relative to the rock-shaft. This pivot-pin I has surrounding it a tension spring I', one end of which engages a pin 13 extending from the arm D, the other end of which is secured to said pin 1, said spring tending to swing the arm D in a direction to carry the knife *d* toward the fixed knife *d'*, all as described in said patent. Since the aperture in the hub F is larger than the shaft, this desired swinging movement of the arm D on the shaft is permitted. The tension of the spring I' is adjusted by turning the pivot-pin and said pin is maintained in its adjusted position by means of a set screw *g'* which is tapped into the end of the rock-shaft.

In the patent above referred to the rock-shaft is flattened at the point where it passes through the hub F of the arm D, and as a result a very small set screw *g'* had to be used. With my present construction wherein the aperture in the hub is round and is made slightly larger than the shaft, said shaft is not reduced in size and therefore a larger set screw *g'* can be used which is a decided advantage.

Rigidly secured to the shaft G is an arm 19 which carries at its end an adjusting screw 20 adapted to bear against a tail piece 21 extending from the hub F. This adjusting screw 20 limits the swinging movement of the knife *d* toward the fixed knife *d'*. By placing the stop screw 20 in the arm 19, said screw can be placed at considerable distance from the pivot point I and a much more accurate adjustment can be secured than by the construction shown in the above-mentioned patent.

In said above-mentioned patent the strip is fed forwardly by hand as the individual slips are cut therefrom. In my present invention I have provided an automatic strip-feeding mechanism whereby the strip is fed automatically and the operator is relieved of the necessity of manually feeding the strip at each operation.

In the preferred embodiment of my invention the automatic feeding of the strip is accomplished by the movement of the knife-

actuating member C, the construction being such that when said member swings away from the casing as the device is lifted from the table the strip will be fed. For this purpose I have provided the shaft 31 of one of the feed rolls with a ratchet wheel 32 with which coöperates a pawl 33 carried by a pawl-carrier 34 that is pivotally mounted on the shaft 31. A link 30 connects this pawl-carrier with the knife-actuating member C, and said pawl and ratchet are so arranged that when said knife-actuating member C moves toward the casing, as it does when the apparatus is pressed against the table or mail matter that is to be addressed, said pawl will click over the ratchet teeth, while when said knife-actuating member swings away from the casing, as it does when the device is lifted from the table, the pawl will engage the ratchet and turn the feed roll forwardly, thereby automatically feeding the strip. It is desirable to provide an adjustable feeding mechanism because under some conditions the addresses will be printed further apart on the strips than under other conditions. Therefore, I provide the knife-actuating member C with a plurality of holes 40 into any one of which the screw 41 which pivotally secures the link 30 to said member may be placed. It will be obvious that by shifting the point of connection between the link and the knife-actuating member C the extent of feeding movement will be varied.

44 is a stop screw which is screw-threaded into a lug 45 and which is adapted to engage an arm 46 projecting from the knife-actuating member C for the purpose of limiting the downward swinging movement of the latter, and thus regulating the amount that the strip will be fed at each movement of the member C. This construction permits a finer adjustment of the feeding mechanism than can be secured by changing the pivotal connection between the link 30 and the member C.

The pawl 33 is pivotally mounted on the pin 50 which forms the pivotal connection between the pawl-carrier 34 and the link 30 and is held normally in its operative position, as shown in Fig. 1, by means of a spring 51 which encircles the hub of the pawl-carrier and one end of which engages the pin 52 extending from the pawl, and the other end of which engages a pin 53 extending from the pawl-carrier. The construction is such that by swinging the pawl into the position shown in Fig. 3, the spring will operate to hold the nose of the pawl out of engagement with the teeth of the ratchet-wheel 32, and when the pawl is thus out of engagement with said ratchet the operator may feed the strip by hand by turning the roll 60 with his thumb, which roll has the gear 61 thereon that meshes with and drives the gear B, said gear B mesh-



ing with a gear on the shaft of the feed roll, all as shown in the above-mentioned patent. My device, therefore, is constructed so that the strip may be fed either automatically or by hand.

The fixed knife *d* is so situated that the gummed or glued side of the strip passes over it, and as a result said knife is subjected to the corrosive action of the glue or other adhesive. I have found from experience that an iron or steel knife has a comparatively short life owing to the destructive effect of the adhesive. Accordingly I propose to make the fixed knife of some non-ferrous material such, for instance, as a bronze composition which will not be affected by the corrosive action of the adhesive used. A knife made of this material will have a much greater length of life than a knife made of ferrous material.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a mailer, the combination with a frame having a fixed knife and two separated bearings, of a rock-shaft supported in said bearings, a pivoted knife carried by the rock-shaft, a knife-actuating member pivoted to the frame, and means acting on said shaft between the bearings thereof to communicate motion thereto from said knife-actuating member.

2. In a mailer, the combination with a frame having a fixed knife and two separated bearings, of a rock-shaft supported in said bearings, an arm on the rock-shaft between the bearings, and a knife-actuating member pivoted to the frame and having a projection to engage said arm.

3. In a mailer, the combination with a frame having a fixed knife, of a rock-shaft supported by said frame, an arm having a hub mounted on the rock-shaft, the aperture through said hub in which the shaft is received being larger than the shaft, and a

pivotal pin extending through the hub and shaft.

4. In a device of the class described, the combination with a frame having a fixed knife, of a rock-shaft carried by the frame, an arm pivoted to the rock-shaft and carrying a movable knife, a second arm fast to the rock-shaft, and an adjusting screw in said second arm and adapted to engage the first-named arm.

5. In a mailer, the combination with a frame, of a knife pivoted thereto, a knife-actuating member pivoted to the frame, strip-feeding rolls, a ratchet-wheel mounted on the shaft of one of said rolls, a pawl-carrier pivoted on said shaft and connected to the knife-actuating member, a pawl pivoted to the pawl-carrier and having a projecting pin, a spring encircling the end of said shaft and having one end in engagement with said pin and the other end secured on the pawl-carrier, said pin being so positioned that in one position of the pawl the spring holds said pawl in active engagement with the ratchet wheel and in another position of said pawl the spring holds the pawl out of engagement with the ratchet-wheel.

6. The combination with a frame, of a knife pivoted thereto at a fixed point, a knife-actuating member also pivoted to the frame and having a projecting arm, strip-feeding mechanism actuated by said knife-actuating member, and an adjusting screw carried by the frame and adapted to engage the arm and limit the movement of the knife-actuating member away from the frame.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

CHAUNCEY WING.

Witnesses:

LOUIS C. SMITH,  
HOWARD WING.